

6 is denoted the set-top box promo application. It may be tightly connected to the head-end application, which contains the business logic of the user interface.

Although the system has been described to have a central as well as a regional promotion scheduler it is conceivable to merge the two into a single scheduler. It is also evident that the system can comprise any number of central promotion schedulers, regional promotion schedulers and head-end application gateways. Even if the expression households is used above it is evident that the above system may include displays not only located at households but anywhere, e.g. in shops, banks, restaurants, etc.

Each application above may have a connection to Internet, and may use standard communication mechanisms. Preferably, none of the applications has a direct access to any other application. The different "application boxes" denotes functional blocks. The actual location of these blocks can be any server set up to support the system. All, some or none of the boxes could be located in the same server. The reason to divide them here is to separate the functionality on a system level.

#### TIME SLOT

In accordance with the invention the promotion channel is divided into a number of time slots. The duration of each time slot is preferably in the order of minutes. During a time slot, the promotional message controls what is displayed on the television screen portion allocated for the promotion channel. Each household may be handled individually, i.e. different households may have different promotional messages displayed during the same time slot. To be able to show e.g. BMW promotions when a car is displayed in e.g. a James Bond movie would, however, require time slots down to the order of 5 seconds, if the appearance of the promotional message is to be controlled by the time slot mechanism. This would then lead to an unreasonable number of time slots per calendar day and so it is preferred to make the promotional message intelligent so that it can decide itself when during the time slot it is supposed to appear on a particular display.

The head-end application gateway 4 is provided with means for monitoring synchronisation signals. The available sources of these signals vary over time and

the functionality of the application. The application offers a number of services that are made visible to the promotional message through the set-top box application. The sources of synchronisation information includes Video Tape Recorder (VTR) signals at program start provided by the broadcast channel, other synchronisation signals provided by the broadcast channel, e.g. promotion start synchronisation signals.

A plurality of promotional messages that are to be shown during a plurality of time slots may be assembled into a campaign. There may also be more than one promotional message used and each of them may be used during a set of time slots. The promotional messages are sent to a plurality of households that matches the selection criterion that is set up for the campaign. The invention provides for any number of campaigns to be run simultaneously as each campaign makes its own selection of which households to target. Some campaigns may of course overlap, but this can be handled by the present system.

Since the promotional messages rely on time slots, it is important that most devices in the system/network have the same time, i.e. that all time slots are due at the same time for all households. The demand for accuracy is reduced if the promotional message relies on an external event for synchronisation. For promotional messages not synchronising, they will be relying on a time related to the time slot start.

Different broadcast channel companies are located in different time zones. It is therefore preferable to use an internal time reference that is invariant to the actual location of the set-top box 6. In the US East Standard Time is used and in Europe Greenwich Mean Time, GMT. An advantage of using GMT is that it is not adjusted for daylight savings time. The conversion between GMT and local time is used by the head-end application gateway 4. When defining a campaign local time is normally used as the time base. The back-end control application 1 may transform the time slot specification to GMT. The head-end application 1 is aware of the time zone for e.g. the CATV segment that it is responsible for and converts the time slot information to local time. In the set-top box 6, the promotional message can retrieve local time, GMT and campaign owner time, selected at the campaign set-up. The reason for not using only local time is that it should be possible to use the same

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promotional message world-wide, regardless of the actual location of the set-top box 6. On the other hand, the set-top box 6 must know the local time if it should be possible to manage consumer/viewer defined events. Note that different time zones means that the local time differs when a program is sent.

## CONSUMER PROFILE

Consumer/viewer profiles denote a profile of interest. It reflects the "soft" parts of the people currently watching the television. The profile may be the only source of information used by the system to select which viewers to direct promotional messages to. According to the present invention each household is provided with a pre-allocated profile which is set up in advance e.g. when a subscription is made. This initial profile is called the default profile. However, the present invention also features additional profiles, which the viewers can define themselves. The viewers freely select the content of those profiles. This means that different people in a household can define their own profiles reflecting what they are interested in, as well as allowing them to use different profiles at different times of the day. There may be any number of profiles. The user can also update and delete the consumer profiles.

The consumer profiles are stored locally, and the selected profile is sent to the promotion scheduler 2, 3 when selected. If only a default profile exists, the viewer need not specify any profile when switching on the television set since the default profile will be selected automatically by the system. The default profile may also be used after a timeout period, if no profile has been selected. The timeout value may be set to a few seconds, but can be changed by the viewer. The viewer profiles cannot be linked to a particular viewer because of the profile set-up procedure. This is not assumed to be a drawback since the normal situation is that there is more than one person watching the television. The profile that will be used is most likely some approximation of the interests of all the viewers watching within a particular household. Providing multiple profiles allow the viewers to select profiles that more closely match the interests of the persons currently watching. The default profile is also used by the present system when allocating promotional messages for the viewers before any statistics have been collected.